HW ANSWERS

p. 288 #8 – 14 EVEN, 18, 19, 21

8) (a) population = all people who visit that website

(b) parameter = true percent of people who want marijuana legalized for medicinal reasons

(c) sampling frame = people who visit the website

(d) sample = the people who responded to the question on the website

(e) method = voluntary response sample, no randomization used

(f) biases = voluntary response bias

undercoverage- not everyone visits the site and sees the question

response bias- in case anything on the website gave an opinion for/against legalization

10) (a) population = all voters in the city

(b) parameter = what issues that voters are interested in

(c) sampling frame = all blocks in each of the city’s election districts

(d) sample = all residents that the staff members can find that day

(e) method = stratified (election districts), then convenience sample within each strata. There is randomization

in the stratified part of the sample.

(f) biases = voluntary response bias

nonresponse bias

undercoverage- some people might not be home when the staff members come by

12) (a) population = all cars on the road in that State

(b) parameter = (10%) true % of cars in the state without updated registration, insurance, and safety inspection

(c) sampling frame = cars that drive on that particular road on that day(s)

(d) sample = the cars they stop

(e) method = Convenience sample & Cluster Sample. No randomness

(f) biases = not random time of day

Undercoverage- the road may not be representative of all cars on the road for that State

Possible bias in the way the cars that were stopped were chosen by the officers?

Possible overcoverage- some cars that drive on that road may not be from that State

14) (a) population = all dairy farms

(b) parameter = the true % of contaminants in the milk

(c) sampling frame = all dairy farms? Unsure!

(d) sample = the farms visited by inspectors

(e) method = unsure! SRS? Or multistage?

(f) biases = none, as long as farms are randomly selected and so is the milk that is tested at each farm.

18) (a) method = Voluntary Response

Biases = Voluntary Response bias

Undercoverage- those w/o TVs, those who don’t watch that news program, those without

Phones

Response bias- the two phone numbers could be confusing or misleading

(b) method = Convenience sample & Voluntary Response

Biases = Voluntary response bias

Response bias- they are asking the questions at the PTA meeting & the PTA probably has their

own opinions that they will express

Undercoverage- those who cannot attend the meeting for whatever reason

(c) method = stratified sample & then census in the class

Biases = non response

Undercoverage? Depends on how they contact the parents

(d) method = Systematic

Biases = Response bias – because there is an interviewer (especially since its from the PTA, which

probably has an opinion), people could change their answers

Nonresponse- people might not be home

19) (a) Multistage sampling

(b) The 3 churches you pick might not be representative of all the churches in the city. Also, there could be

nonresponse when you try to contact the 100 members you chose at random.

21) (a) Systematic sampling

(b) People in line for the roller coaster that day

(c) It should be representative of the population. It is stated that they are concerned about the population of all

patrons who want to ride the ride, so surveying people in line (who intend to ride it) would be representative.